

Progress in Molecular Biology and Translational Science

Micro- and nanofluidics for high throughput drug screening

Mathekga, BSP; Nxumalo, Precious Z and Thimiri Govindaraj, Deepak B

Abstract

In this book chapter, we elaborate on the state-of-the-art technology developments in high throughput screening, microfluidics and nanofluidics. This book chapter further elaborated on the application of microfluidics and nanofluidics for high throughput drug screening with respect to communicable diseases and non-communicable diseases such as cancer. As a future perspective, there is tremendous potential for microfluidics and nanofluidics to be applied in high throughput drug screening which could be applied for various biotechnology applications such as in cancer precision medicine, point-of-care diagnostics and imaging. With the integration of Fourth industrial revolution (4IR) technologies with micro and nanofluidics technologies, it envisioned that such integration along with digital health would enable next generation technology development in medical field.